4-19-2004

Scout alfalfa weevils during April

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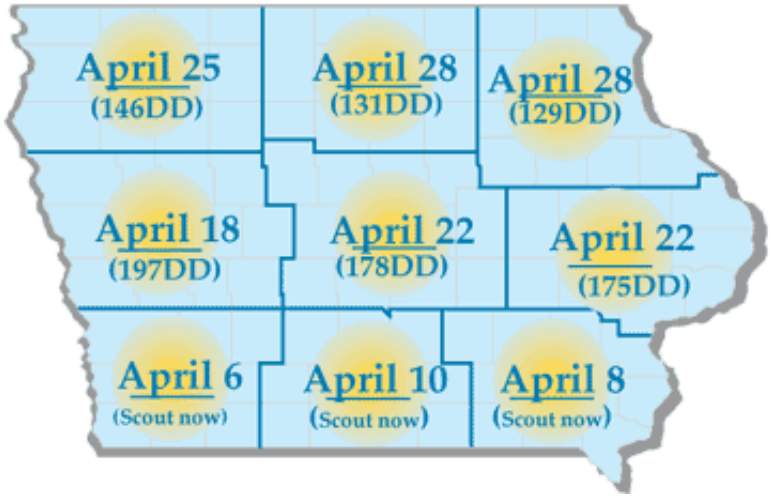
Degree-day information indicates that alfalfa weevil larvae are hatching throughout southern Iowa (see map). Proper management of this insect requires timely scouting, correct identification, determination of population levels, and if necessary, cultural or chemical control.



Fields should be scouted for alfalfa weevils because the larvae can be very destructive to first-cut alfalfa. Weevils remove leaf tissue, beginning with the new leaves at the top of the plant and working down the stem to other leaves. Weevils' feeding reduces forage quality and quantity.

Scouting should begin at approximately 200 degree-days in fields south of I-80 and 250 degree-days in fields north of I-80. Begin by scouting on south-facing hillsides. Larvae hatch here first because these areas warm up more quickly than north-facing hillsides.

Save some scouting time by using a sweep net to quickly and easily determine whether larvae occur in the field. If larvae are found in the net, begin a more careful examination by collecting 30 stems and looking for larvae in the upper leaves. Break the stems gently so you do not dislodge the larvae on the plant. The best way to accomplish this is to grab the top of the plant with one hand and break the base of the stem with the other hand, or cut it with a knife. This keeps the larvae on the plant and prevents them from being dislodged, which is very common when only one hand is used to break a stem. Now place the stems inside a white, 5-gallon bucket and beat them against the side. Large larvae are knocked loose and can be counted easily, but newly developing leaves must be pulled apart to find very small, newly-hatched larvae hidden in the plant tip.

Alfalfa weevil larvae have a very dark head, almost black, and are pale green with a white stripe down the back. When the alfalfa weevil hatch, they are approximately 1/16 inch in length and may be light yellow. After feeding for several days, they turn green. They are 5/16 inch in length when fully grown.

Alfalfa weevil larvae may be confused with larvae of the clover leaf weevil, although these are much larger, have a light brown head, and often have the white stripe edged with pink. Clover leaf weevil larvae usually hide around the base of the plant during the day, feed mostly in lower leaves at night, and rarely cause economic yield losses. Clover leaf weevil should not be counted as part of the alfalfa weevil sample.

Economic thresholds are shown in Table 1. Measure the plant height and then determine the average number of weevil larvae per stem, based upon a 30-stem count, before consulting Table 1. The economic threshold depends on crop height, estimated crop value, control costs, and the growing conditions stated in Table 1. Several insecticides labeled for weevils are listed in Table 2.

Table 1. Economic thresholds based on alfalfa weevil larvae per stem, calculated from a 30-stem sample.

Plant Height (Inches)	$40/ton	$70/ton	$100/ton	Management Decision
4	1.8-2.8	0.8-1.3	0.6-0.8	Reevaluate in 4 days. If damage and larval numbers are increasing, a long- residual insecticide is recommended to prevent severe yield loss
6	2.0-3.0	0.8-1.5	0.6-1.0	
8	2.2-3.2	0.9-1.7	0.7-1.2	
10	2.3-3.5	0.9-1.9	0.8-1.4	If alfalfa is in vegetative stages, a short residual insecticide should be used
12	2.4-3.8	1.0-2.2	0.9-1.6	
14	2.5-4.2	1.2-2.5	1.0-1.8	
16	2.6-4.6	1.5-2.8	1.1-2.0	If >60 percent of alfalfa is in the bud stage, harvest is recommended. Evaluate stubble after harvest. If not scheduled to be cut within 7-10 days, a short-residual insecticide is recommended
18	2.7-5.0	1.7-3.1	1.2-2.3	
20	2.8-5.8	2.0-3.4	1.4-2.6	
>20	3.0-7.0	2.4-4.0	1.6-3.0	

Use the smaller threshold if alfalfa is drought-stressed, or control costs are relatively low ($7-10 per acre). Use a larger threshold if rainfall is abundant, diseased larvae are present, or control costs are relatively high ($11-14 per acre).

Table 2. Insecticides labeled for alfalfa weevil.

Insecticide	Rate per Acre (High and Low Rates)	Harvest Interval (days)
Baythroid 2E	1.6-2.8 ounces	7
Furadan 4F	0.5-2 pints	7-28
Lannate LV	3 pints	0
Lorsban 4E	1-2 pints	14-21
Mustang Max	2.24-4.0 ounces	3
Pounce 3.2EC	4-8 ounces	0-14
Sevin XLR+	3 pints	7
Warrior	2.56-3.84 ounces	7

This article originally appeared on pages 22-23 of the IC-492 (4) -- April 19, 2004 issue.
